

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on March 23, 2006, and the references cited therewith. Reexamination and allowance of the subject application are respectfully solicited.

Claims 1, 18, and 21-23 are amended, claims 9-17, and 19 are canceled; as a result, claims 1-8, 18, and 20-27 are now pending in this application.

'112 Rejection of the Claims

Claim 9 was rejected for reciting "the network adapter" in line 3, for the asserted reason that there is insufficient antecedent basis for this limitation in the claim. Claim 9 has been cancelled herein rendering the rejection thereof moot.

'102 Rejection of the Claims

Claims 1-22, and 24-27 were rejected under 35 USC § 102(e) as being anticipated by Johnson, et al. (US 2002/0161934; hereinafter Johnson).

Independent claim 1 is directed at a system for storing data and the management of data storage resources on a network to allow clients coupled to the network to utilize the data storage resources independent of network protocols and input/output formats of data storage nodes. Independent claim 1 has been amended to emphasize the foregoing aspects. Support for these amendments can be found, for example, in paragraph [0031]-[0032], [0048]-[0049] of the application, original claim 9, and FIG. 4. As such, no new matter is believed entered by this amendment.

As amended, independent claim 1 reads:

1. A system comprising:
a communication adapter coupled to a transmission medium to transmit and receive data according to a network protocol, said communication adaptor configured to receive and respond to requests for storage services from clients.
a data bus coupled to one or more storage nodes, each storage node comprising storage resources and logic to transmit data to or receive data from a storage medium according to an input/output format in response to said request for storage services from clients; and

a processing system to host a common transport agent, the common transport agent comprising a first interface comprising one or more method interfaces to communicate with each storage node independently of the input/output format of the storage node for transmitting data to or receiving data from the storage medium, and a second interface comprising one or more method interfaces to communicate with the communication adapter for communicating with said clients requesting storage services, the one or more method interfaces of the second interface being independent of the network protocol. (Emphasis added)

Similarly, the invention of independent claim 18 recites a storage node, e.g., for storing data and providing storage resources for clients. Independent claim 18 has been amended to more clearly define the remote transfer agent. Claims 21-23 have been amended to read consistent with amended claim 18. Support for the foregoing amendments may be found, for example, in paragraphs [0040]-[0041], [0045], [0048], etc., and original claim 19. No new matter is believed entered by this amendment.

As amended, independent claim 18 reads:

18. A storage node comprising:
an I/O controller to store data in and retrieve data from a storage medium according to an I/O format; and
a processing system comprising:
a device driver module to transmit data to and receive data from the I/O controller according to the I/O format; and
a remote transport agent coupled to the device driver, the remote transport agent comprising a first interface to receive commands to store data in or retrieve data from the storage medium, the commands being defined in the first interface by one or more method interfaces which are independent of the I/O format, and comprising a second interface to receive requests to establish connections between clients and said storage medium for providing storage services to said clients. (Emphasis added)

By contrast to the claimed invention, Johnson is generally directed at an arrangement for providing a storage management system with information regarding various host systems, and more particularly regarding data storage devices communicatively coupled to the host systems. The information regarding the host system or data storage device is gathered by a host agent on

the host system. See, e.g., paragraph [0009] of Johnson. The information gathered by the host agent “is transported to the storage management system 104 using a remote procedure call.” A disclosed example of a remote procedure call is Java’s Remote Method Invocation. See, Johnson paragraph [0050].

Consistent with the foregoing, the host agent of Johnson is understood to retrieve device discovery and device identification information. See, e.g., paragraph [0038]. The device discovery and device identification information may be forwarded to the storage management system in a document using a markup language. Johnson does not appear to teach, or even suggest, the claimed “common transport agent comprising a first interface comprising one or more method interfaced to communicate with each storage node independently of the input/output format of the storage node for transmitting data to or receiving data from the storage medium, and a second interface comprising one or more method interfaces to communicate with the communication adaptor for communicating with said clients requesting storage services,” as recited by independent claim 1. Johnson also does not appear to teach, or suggest, a storage node including “a remote transport agent comprising a first interface to receive commands to store data in or retrieve data from the storage medium ... and comprising a second interface to receive requests to establish connections between clients and said storage medium for providing storage services to said clients.” Accordingly, amended independent claim 1, and claims 2-8, ultimately depending thereupon, are not anticipated by Johnson. Similarly, amended independent claim 18, and claims 20-27, ultimately depending thereupon, are not anticipated by Johnson. Withdrawal of this rejection is respectfully requested in view of the foregoing amendments and remarks.

'103 Rejection of the Claims

Claim 23 was rejected under 35 USC § 103(a) as being unpatentable over Johnson, et al. (US 2002/0161934; hereinafter Johnson) in view of Cayton, et al. (US 2003/0043794; hereinafter Cayton). As noted above, independent claim 18, upon which claim 23 ultimately depends, has been amended to more clearly define the remote transfer agent, which features are neither taught nor suggested by Johnson. Cayton is not understood to teach the further aspects of amended independent claim 18. In view of the insufficiency of Johnson and Cayton, it is respectfully submitted that the combined teachings of Johnson and Cayton fail to teach or suggest every

aspect of claim 23, incorporating the limitations of amended claim 18. Withdrawal of this rejection is respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (603-668-6560) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-2121.

Respectfully submitted,

MARK WUNDERLICH, ET AL.

By their Representatives,

Customer No. 45459

603-668-6560

Date

6-26-06

By



Edmund P. Pfleger

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23 day of June 2006.

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Signature

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